

Section I (Amendments to the Claims)

Please amend claims 46, 47 and 49, as set out in the following listing of the claims 1-56 of the application.

1.-45. (Cancelled)

46. **(Currently Amended)** An electrically non-conductive, nanoparticulate membrane comprising nanoparticles of at least one inorganic oxide of an element selected from Group IA, IIA, IIA, IVA, IB, IIB, IIIB, IVAB, VB, VIB, VIIB, VIIIB of the Periodic Table, and wherein an oxidoreductase enzyme and polymeric redox mediator capable of transferring electrons are diffusibly dispersed in said nanoparticulate membrane to allow diffusion thereof within the membrane and into a test sample, when the membrane is exposed to a said test sample.

47. **(Currently Amended)** The membrane according to ~~Claim~~ claim 46, wherein the oxidoreductase is selected from the group consisting of glucose oxidase, hydrogen peroxidase, horseradish peroxidase, xanthine oxidase, cholesterol oxidase, hydrogen hydrogenase, lactate dehydrogenase, glucose dehydrogenase, NADH dehydrogenase, sarcosine oxidase, lactate oxidase, alcohol dehydrogenase, hydroxybutyrate dehydrogenase, glycerol dehydrogenase, sorbitol dehydrogenase, malate dehydrogenase, galactose dehydrogenase, malate oxidase, galactose oxidase, xanthine dehydrogenase, alcohol oxidase, choline oxidase, xanthine oxidase, choline dehydrogenase, pyruvate dehydrogenase, pyruvate oxidase, oxalate oxidase, bilirubin oxidase, glutamate dehydrogenase, glutamate oxidase, amine oxidase, NADPH oxidase, urate oxidase, cytochrome C oxidase, and actechol oxidase.

48. **(Previously Presented)** The membrane of claim 46, wherein the polymeric redox mediator capable of transferring electrons is a vinylferrocene-based polymeric redox mediator capable of transferring electrons.

49. **(Currently Amended)** The ~~sensor~~ membrane according to ~~Claim~~ claim 46, wherein the oxidoreductase is covalently linked to the polymeric redox mediator by cross-linkages.

50. **(Previously Presented)** The membrane of claim 46, wherein the element selected from Group IA, IIA, IIIA, IVA, IB, IIB, IIIB, IVAB, VB, VIB, VIIB or VIIIB of the Periodic Table is selected from the group consisting of aluminium, silicon, magnesium and zinc.

51. **(Previously Presented)** The membrane of claim 46, wherein the thickness of the membrane ranges from 250 to 500 μm .

52. **(Previously Presented)** The membrane of claim 46, wherein the size of the nanoparticles ranges from 10 nm to 1 μm .

53. **(Previously Presented)** The membrane of claim 46, wherein the membrane further comprises a polymeric binder.

54. **(Previously Presented)** The membrane according to Claim 53, wherein the polymeric binder is a polymer or copolymer comprising monomer units selected from the group consisting of vinyl pyridine, vinyl imidazole, acrylamide, acrylonitrile, and acrylhydrazide and acrylic acid.

55. **(Previously Presented)** The membrane according to claim 46, wherein the membrane is adapted for determination of glucose concentration.

56. **(Previously Presented)** The membrane according to claim 48, wherein the vinylferrocene-based polymeric redox mediator is selected from the group consisting of poly(vinyl ferrocene), poly(vinyl ferrocene)-co-acrylamide, poly(vinyl ferrocene)-co-acrylic acid, and poly(vinyl ferrocene)-co-acrylamido- $(\text{CH}_2)_n$ -sulfonic acid, and poly(vinyl ferrocene)-co-acrylamido- $(\text{CH}_2)_n$ -phosphonic acid, wherein n is an integer from 0 to 12.